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ABSTRACT

This study compares effects of an early childhood instructional program--designed to develop auditory and visual perception skills by stressing differential diagnosis, prescriptive suggestions and concomitant procedures--with programs typically found in nursery schools. Treatment group consisted of twelve paired on intelligence, auditory and visual perception scores. Treatment group split in two, each receiving instruction engaging weaker sense modality, mainly visual for one, mainly auditory for the other. Statistical analysis revealed significantly higher scores on both perceptual indices for the treatment groups. Study suggests need to focus upon modification of behaviors basic to learning (e.g. perception) and catering to the specificity of learner inadequacies. (Author)

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COVER SHEET
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Helping Problem Learners During the Early Childhood Years

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The general objective of this study was to determine whether any significant improvement occurred in certain visual and auditory perception abilities of children, exhibiting deficits in these areas, when they were subject to a specific type of educational treatment as compared to the effects of a more generalized instructional program, typically given in nursery schools. The basic assumption underlying this study is the belief that previous efforts at remediating early childhood deficiencies to learning seldom focused on the modification of behaviors basic to academic achievement (i.e. visual and auditory perception) and, when such attempts were made, the designs were too amorphous, tending to neglect the specificity of learner inadequacies.

Twelve youngsters, four of whom were girls and half of whom were educationally disadvantaged Negroes, between the ages of four and six with the following qualifications were selected: (1) an intelligence quotient as measured by the Peabody Picture Vocabulary Test of 90 or above, (2) visual perception age either at or above their C.A. or at least one year below their C.A., (3) auditory perception age either at or above their C.A. or at least one year below their C.A. For the purposes of this study, visual perception was defined as that measured by the Frostig Developmental Test of Visual Perception perceptual quotient. Auditory perception was defined as that measured by the average age of three subtests of the Illinois Test of Psycholinguistic Abilities: auditory sequencing, auditory closure, and sound blending. Two groups of twelve children were organized by matching each member of the experimental Group I (Early Childhood Center, Drexel University) with an equivalent member of the control Group II (a model nursery school operated by School District of Philadelphia) in terms of the following factors: chronological age (within three months), intelligence quotient (within eight points), visual perceptual quotient (within four points), and auditory perception (within three months). The treatment group was subdivided: Group Ia composed of youngsters obtaining its lowest scores on the test of visual perception and Group Ib receiving its lowest scores on the test of auditory perception. Group Ia obtained scores at or above their C.A. in auditory perception while Group Ib had scores at or above C.A. in visual perception. Group I averaged eleven hours of formal instruction over a seven month period, while Group II averaged thirty-two hours of formal instruction. In the latter case, instruction consisted of a wide variety of "reading readiness" and "cognitive development" activities.

The instructional procedures differed for each of the treatment groups. In each case, a diagnostic profile or "learning print" indicated the weaker modality (visual or auditory), together with the specific deficiency or

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cluster of deficiencies which should receive initial emphasis. With Group Ia instruction began with programs to improve their visual deficits. Some children in this group, for example, began with programs to develop general form and configuration skills while more advanced children might have been introduced to letter orientation or visual sequentialization. As their skills progressed, some were introduced to programs for developing rate or speed of visual discrimination and ultimately, to reading itself. The same format was followed with Group Ib except that their instructional procedures focused on auditory perceptual activities. The teachers, with guidance and assistance from supervisors and university staff, practiced a circular relationship between evaluation and teaching, utilizing the child's responses to determine the next step. This frequently necessitated the observation of the child's responses to a series of learning situations and noting where they succeeded and where they failed. The procedures enumerated thus far were designed to correct the child's deficits.

But teaching to deficits is a unitary, limited concept of instruction. This may, in fact, insure that the introduction to reading will need to be postponed until the deficient modality is remediated. Since teaching to a child's integrities is also important, instructional time was spent in teaching to each child's perceptual strengths. The word "programs" has been used because at least half of each child's instructional time was spent with an Edison Responsive Environment Talking Typewriter. Graduate students, teachers, and supervisors pre-programmed each training session with materials and learning tasks which were individually tailored for each youngster. The material used developed out of the interests and experiences of the child. The machine, regarded here as a delivery system, was especially appealing since it could easily be programmed to engage predominantly visual or auditory perceptual modalities.

A statistical test of the difference between changes was needed. Formulas provided by Edwards were used to obtain the standard error of the difference for paired observations. The value to t was then calculated for a one-tailed test at the .05 level of confidence. This analysis revealed that Group Ia made significatly greater improvement in the evaluation of visual perception but not in auditory perception. Group Ib made significantly greater improvement in the evaluation of auditory perception but not in visual perception.

The findings indicate that an early intervention instructional program which emphasizes differential diagnosis, the development of a learning print for each child, followed by prescriptive procedures and techniques, is superior to the type of pre-reading instruction offered by a representative nursery school in developing behaviors presumably basic to later academic success in school.

Perhaps the numerous reports in the literature which have indicated that academic improvement in early intervention programs have plateaued or have shown little improvement are due to the amorphousness of these programs or the failure to take into account the specificity of learner inadequacies. Methods of teaching which ignore perceptual strengths or deficits, or are translated into curriculum for all children (e.g. exlusive use of perceptual-motor training for all children in a certain age bracket), are likely to magnify the difficulties they later encounter in attempting to develop reading skills.